

CLAIMS

1. A communication system for two-way exchange of information using a binary coded waveform, said system having:

a base unit operable to transmit and receive electromagnetic radiation waveforms modulated by binary coded voice or data message signals,

a hybrid unit remote from the base unit and operable to receive and transmit binary coded electromagnetic radiation waveforms from and to the base unit,

said hybrid unit having a first surface acoustic wave device with an input to receive a binary coded electromagnetic radiation waveform from the base unit and cause a corresponding binary coded surface acoustic wave to travel from the input to an output thereof and be reflected back to the input, and

a first transducer connected to said output to receive further information from a source thereof and modify said reflected surface acoustic waveform whereby said reflected surface acoustic waveform incorporates such further information and becomes a modified reflected surface acoustic waveform which travels to said input and then travels as a modified binary coded electromagnetic waveform to the base unit.

2. A communication system according to claim 1 wherein the first transducer is a microphone.

3. A communication system according to claim 1 wherein the hybrid unit also has a second surface acoustic wave device with an input to receive said binary coded electromagnetic radiation waveform from the base unit and cause a corresponding binary coded surface acoustic wave to travel from the input to an output thereof, the output of the second surface acoustic wave device comprising a filter arrangement to decode the binary coded electromagnetic radiation waveform, and a second transducer which is appropriately actuated by the decoded output.

4. A communication system according to claim 3 wherein the second transducer is a loud speaker.

5. A communication system according to claim 1 wherein the hybrid unit also has a second surface acoustic wave device with an input to receive said binary coded electromagnetic radiation waveform from the base unit and cause a corresponding binary coded surface acoustic wave to travel from the input to an output thereof, the output of the second surface acoustic wave device comprising a filter arrangement to decode the binary coded electromagnetic radiation waveform, and a second transducer which is appropriately actuated by the decoded output, the first transducer being a microphone and the second transducer being a loud speaker.

6. A hybrid unit for a communication system and operable to receive and transmit electromagnetic radiation waveforms modulated by binary coded voice or data message signals from and to a base unit, said hybrid unit having a first surface acoustic wave device with an input to receive a binary coded electromagnetic radiation waveform from the base unit and cause a corresponding binary coded surface acoustic wave to travel from the input to an output thereof and be reflected back to the input, and

a first transducer connected to said output to receive further information from a source thereof and modify said reflected surface acoustic waveform whereby said reflected surface acoustic waveform incorporates such further information and becomes a modified reflected surface acoustic waveform which travels to said input and then travels as a modified binary coded electromagnetic waveform to the base unit.

7. A hybrid unit according to claim 6 wherein the first transducer is a microphone.

8. A hybrid unit according to claim 6 also having a second surface acoustic wave device with an input to receive said binary coded electromagnetic radiation waveform from the base unit and cause a corresponding binary coded surface acoustic wave to travel from the input to an output

thereof, the output of the second surface acoustic wave device comprising a filter arrangement to decode the binary coded electromagnetic radiation waveform, and a second transducer which is appropriately actuated by the decoded output.

9. A hybrid unit according to claim 8 wherein the second transducer is a loud speaker.

10. A hybrid unit according to claim 6 wherein the hybrid unit also has a second surface acoustic wave device with an input to receive said binary coded electromagnetic radiation waveform from the base unit and cause a corresponding binary coded surface acoustic wave to travel from the input to an output thereof, the output of the second surface acoustic wave device comprising a filter arrangement to decode the binary coded electromagnetic radiation waveform, and a second transducer which is appropriately actuated by the decoded output, the first transducer being a microphone and the second transducer being a loud speaker.